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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,534	12/27/2001	Curtis R. Guilbert	57388US002	1437

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EXAMINER

FEELY, MICHAEL J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,534

Applicant(s)

GUILBERT ET AL.

Examiner

Michael J. Feely

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4,8,9,15,16 and 19-22 is/are allowed.
- 6) ☒ Claim(s) 5-7,10,12-14,18 and 23 is/are rejected.
- 7) ☒ Claim(s) 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Pending Claims

1. Claims 1, 2, 4-10, and 12-23 are pending.

Previous Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. The rejection of claim 11 under 35 U.S.C. 112, second paragraph, has been rendered moot by the cancellation of claim 11.

Previous Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. The rejection of claims 1, 2, 4, 8, and 9 under 35 U.S.C. 103(a) as being unpatentable over Ishimura et al. (US Pat. No. 4,367,318) in view of Kobayashi et al. (JP-2000-273282) has been withdrawn. There is insufficient motivation to combine these references because the Kobayashi et al. reference adds a hindered phenol to their epoxy resin composition in order prevent pollution inside a furnace when the epoxy composition is burned off (destroyed) in a pyrolysis process. There is no teaching or suggestion that this hindered phenol would benefit the coating composition of Ishimura et al., except for when it is destroyed.

The rejection of claim 11 has been rendered moot by the cancellation of claim 11.

Previous Allowable Subject Matter

6. The indicated allowability of claims 5, 7, 12-14, and 18 is withdrawn in view of the newly discovered reference(s). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 7, 10, and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 7, 10, and 23 have been amended to include a gel time recorded *at about* 150°C. The previous version of the claims did not include “about” and the Specification does not provide support for any temperature other than 150°C.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 12, 13, 14, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitihara et al. (US Pat. No. 6,344,155).

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Regarding claims 12, 13, 14, and 18, Kitihara et al. disclose *(12)* an epoxy coating (Abstract) comprising the reaction product of:

(a) at least one crystalline epoxy (column 2, lines 37-46; column 4, lines 18-23);

(b) at least one phenolic resole resin (column 2, lines 37-36; column 3, line 62 through column 4, line 17);

(c) at least one multifunctional branched hindered phenol (column 6, lines 50-57 and 18-30); and

(d) less than about 1 wt% benzoin (not present: *open ended range includes zero*);

(13) wherein said reaction product further comprises bisphenol A terminated epoxy (column 4, lines 18-23); and *(18)* wherein said phenolic resole resin is butylphenol resole resin (column 4, lines 5-10).

Kitihara et al. do not explicitly disclose *a quantity of (a) being from about 30 to 40 wt%, a quantity of (b) being from 10 to 40 wt%, and a quantity of (c) being from about 10 to 40 wt%*; however, it should be noted that Applicant fails to show criticality for these ranges. Kitihara et al. disclose, "The amount of the phenolic resin and/or epoxy resin (b) per 100 parts by weight of the acrylonitrile-butadiene copolymer (a) is 20 to 500 parts by weight, preferably 50 to 300 parts by weight. Per 100 parts by weight of the components (a) and (b) in total...the amount of the antioxidant as the component (e) which is used as required is 1 to 10 parts by weight," (column 6, lines 46-56). In the instance where a blend of phenolic resin and epoxy resin is used, the disclosed ranges appear to have an inherent overlap with the claimed weight requirements. It should also be noted that the quantity set forth in claim 13 is satisfied because the bisphenol A epoxy is a crystalline resin, due to its rigid chain structure.

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Regardless of any overlap, the quantities of claimed components (a), (b), and (c) are result effective variables in the invention of Kitihara et al.: the quantity of epoxy resin (a) has a direct bearing on the overall adhesive properties of the composition; the quantity of phenolic resole (b) had a direct bearing on the degree of crosslinking in the cured product because it inherently acts as a curing agent; and the quantity of hindered phenol (c) had a direct bearing on the antioxidant properties of the overall composition. In light of this, it has been found that where the general conditions of a claimed result effective variable are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation,” – *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In addition, Kitihara et al. do not explicitly disclose **(14)** that the coating has an overlap shear at 180°C of 50 psi or greater; however, this property would have been inherent of the obvious composition. It has been found that, “Products of identical chemical composition can not have mutually exclusive properties.” A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present – *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed cir. 1990).

Therefore it would have been obvious to one of ordinary skill in the art to select: *a quantity of (a) being from about 30 to 40 wt%, a quantity of (b) being from 10 to 40 wt%, and a quantity of (c) being from about 10 to 40 wt%*, in the composition of Kitihara et al. because all three of these variables are established as result effective variables, and Applicant has failed to demonstrate criticality for these ranges.

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11. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishimura et al. (US Pat. No. 4,367,318) in view of Daly et al. (US Pat. No. 5,708,039).

Regarding claims 5-7, Ishimura et al. disclose (5) a powdered epoxy composition (column 1, lines 42-60) comprising: (a) from about 30 to 40 wt% of at least one crystalline epoxy (column 1, lines 53-54; column 4 line 48 through column 5, line 2); (b) from about 10 to 40 wt% of at least one phenolic resole resin (column 1, lines 54-56; column 1, line 64 through column 2, line 21); and (d) less than about 1 wt% benzoin (not present: *open ended range includes zero*); and (6) further comprising 35 to 45 wt% bisphenol A terminated epoxy (column 1, lines 53-54; column 4 line 48 through column 5, line 2: *bisphenol A epoxy is a crystalline resin, due to its rigid chain structure*).

Ishimura et al. use their epoxy composition as a lining insulation varnish for tanks, *drums* and pipes (column 5, line 66 through column 6, line 3) used for handling food materials (column 1, line 24-27). Their composition contains optional additives, including extenders, flow controlling agents, reinforcing agents, fillers, and pigments (column 5, lines 30-33). In addition, it is desirable for their coating to be free of pinholes (column 10, lines 23-27). However, *they do not teach the use of 10 to 40 wt% of a multifunctional branched hindered phenol* in their composition.

Daly et al. disclose a powder coating composition that is useful in the automobile and *can industries* (Abstract). Their composition features: a thermosetting resin, including rigid epoxy resins (column 6, lines 33-56); a curing agent (column 6, lines 58-64); optional antioxidants, including hindered phenols (column 9, line 63 through column 10, line 12) to hinder oxidation of the coated substrate; and a degassing additive, including *benzoin* to prevent the formation of

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pinholes (column 10, lines 31-33). It should be noted that applicant fails to establish criticality for these ranges, and the content of these additives are result effective variables because: the antioxidant has a direct bearing on the antioxidant properties of the overall composition; and the presence of benzoin has a direct bearing on the degree of de-gassing in the composition – *see In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

The coating systems are analogous, as far as their materials are concerned. In addition, their end-uses are analogous. Drums are essentially large cans and both are used to handle food materials. It would appear that the antioxidants (including hindered phenols) used by Daly et al. would be suitable additives in the composition of Ishimura et al. to hinder oxidation of the coated drums/cans, and in turn protect the contents in the drum/can, such as food materials.

Furthermore, although not explicitly required in the claimed invention, it would also appear that benzoin would be a suitable additive in the composition of Ishimura et al. to de-gas the coating, and in turn prevent pin-hole formation in the coating. In light of this, it has been found that selection of a known material based on its suitability for its intended use supports a *prima facie* obviousness determination – *see MPEP 2144.07*.

In addition, it should also be noted that Ishimura et al. do not explicitly disclose (7) that the powdered epoxy composition has a gel time of 60 to 180 seconds at about 150°C; however, this property would have been inherent of the obvious combination, set forth above.

Therefore, it would have been obvious to include *10-40 wt% of a multifunctional branched hindered phenol and optionally benzoin* in the in the composition of Ishimura et al. because Daly et al. establishes that these hindered phenols are suitable antioxidants and benzoin is a suitable de-gassing additive in powdered epoxy coatings used for cans/drums, resulting in

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anti corrosion protection and the reduction of pinholes for the coated cans/drums. Furthermore, Daly et al. establish that the quantity of these additives are result effective variables, and Applicant has failed to demonstrate criticality for these ranges.

Allowable Subject Matter

12. Claims 1, 2, 4, 8, 9, 15, 16, and 19-22 are allowed.
13. Claims 10 and 23 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 1st paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
14. Claim 17 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
15. The following is a statement of reasons for the indication of allowable subject matter:

Claims 1, 2, 4, and 8-10: the prior art fails to teach or suggest the composition of claim 1. The use of 1,4-bis(2,3-epoxypropoxy)benzene distinguishes the instant invention from the prior art. Claims 2, 4, and 8-10 are allowable because they are dependent from claim 1.

Claims 15, 16, and 19-23: the prior art provides not motivation to use the epoxy composition of the instant invention in a method of coating electrical windings. Ishimura et al. disclose that their composition can be used as an insulating electrical paint; however there is no suggestion that it is used to coat electrical windings. Claims 16 and 19-23 are allowable because they are dependent from claim 15.

Claim 17: the use of 1,4-bis(2,3-epoxypropoxy)benzene distinguishes the instant invention from the prior art.

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Communication

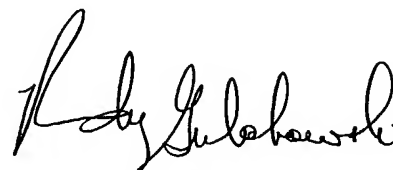
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Feely
Patent Examiner
Art Unit 1712

September 1, 2004



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